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ABSTRACT

Although a great deal of effort has been devoted to the prevention of substance abuse and AIDS risk behaviors in adolescents, the success of such programs can be difficult to measure. This study, in Northeast Houston-Harris County, Texas, examines adolescent attitudes and behaviors toward sexual activity and AIDS and discusses barriers facing those attempting to implement AIDS prevention programs. Results indicate that interest in obtaining more knowledge concerning AIDS and substance use appears to exist at a high level among adolescents, with females being more receptive than males to such information. While the level of AIDS knowledge in general appears to be quite high, there do seem to be deficits in less publicized aspects of HIV transmission, with some variation across ethnic groups. Also not clearly evident is the respondents' knowledge of the relationship between drug use and engaging in at-risk sexual behaviors. Worry about contracting AIDS may or may not necessarily lead to adhering to safe-sexual practices. If school systems serve as the site of program delivery, continued presentation of prevention messages must be continued from middle through high school. Parent-teacher organizations should be encouraged to schedule programs which feature prevention messages. If the focus of these programs is on abstinence, with other "safe sex" recommendations presented within this context, greater receptivity to prevention may occur. Contains 14 references. (BF)

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PREVENTION OF SUBSTANCE ABUSE AND AIDS RISK BEHAVIORS IN ADOLESCENTS: IS ANY REAL PROGRESS BEING MADE? ¹

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Public Health policy spokespersons and political figures continue to engage in rhetorical statements concerning the importance of programs to *prevent* potentially health-threatening behaviors in adolescents such as the use of tobacco, alcohol, illegal drugs, and AIDS-Risk behaviors. Despite such pronouncements, funding for such programs has become increasingly more limited. While limited funding for prevention research may, in part, be due to current research funding constraints in general, we must consider the possibility that the situation reflects the state of adolescent risk behavior prevention research. *Is any real progress being made?*

Since the 1970s, when our Social Psychology/Behavioral Medicine Research Group began exploring the problem of prevention of smoking in adolescents, many major research projects have been funded for the prevention of smoking, use of alcohol and illegal drugs, and most recently, for the prevention of AIDS-Risk behaviors. The earliest work suggested the limitations of fear arousal, the primary method of deterrence employed in most prevention programs at the time. For example, we found that most adolescents believed that smoking was dangerous to their health, yet many began to smoke anyway (Evans, 1976; Evans, Rozelle, Mittelmark, Hansen, Bane & Havis, 1978). This also appeared to be true of the use of alcohol and illegal drugs, and a similar pattern appears to apply, currently, to AIDS-Risk behaviors (e.g., Dryfoos, 1990).

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This raised a critical question for prevention researchers, that is, what components of prevention programs could augment or complement fear arousal messages as a deterrent to health-risking behaviors? Such components emerged from the application of increasingly sophisticated cognitive-social learning theoretical models (e.g., Evans, Getz & Raines, 1991). In initial findings of many of the interventions, investigators reported significant decreases in the initiation of some of these health threatening behaviors. Over time, however, the effects of many of the relatively low-dosage interventions began to "wash out." However, when prevention research investigators addressed the need for developing and evaluating high-dosage prevention programs that might be expected to have long-term effects, they encountered a number of barriers.

The present paper will first delineate some of the situational, institutional policy, and methodological barriers to truly long-term, high dosage prevention programs. Strategies that might be employed in overcoming such barriers will then be considered. Effectively coping with these barriers so as to improve the long-term efficacy of prevention programs appears to be critical if we hope to substantially increase funding for such programs and extend their range.

Let us first consider institutional and policy barriers that have emerged as a major deterrent to carrying out HIV/AIDS and, concurrently, Drug Use prevention research with adolescents. Because of the synergism involving drug use and AIDS-Risk behaviors, drug use prevention programs must invariably address AIDS, as well, so the institutional and policy barriers that deter the implementation of HIV/AIDS prevention programs, also affect the implementation of drug use prevention programs, as well.

It has been well established that communities in general and school boards in particular have raised moral issues surrounding sex education, of which AIDS-prevention is generally a component. The concern, of course, is that teaching about sex directly or inadvertently encourages premature sexual behavior. For example, attempting to obtain responses from adolescents concerning frequency of sexual encounters and their characteristics (e.g, use of

condoms, type of sexual encounter), is perceived as encouraging such behavior. Even administering evaluation instruments, vital components of prevention programs, is not acceptable to many school boards.

In implementing such prevention programs, most investigations have been conducted within school systems, since these appear to be the most promising agencies for the delivery of Drug Abuse/ HIV/AIDS prevention programs to large groups of adolescents. No other institution in our culture has the school's capability to reach young people from all racial, ethnic, religious, and socioeconomic groups (Gilchrist, 1990). Within the context of the educational institution, however, even at the outset of planning, program developers have to consider obvious constraints to implementing and evaluating all prevention programs.

Working within school systems, the researcher is immediately faced with two problems. First, the limited amount of class time that the school is willing to allocate to such prevention programs is the reason that most of the prevention programs previously described could only involve "low-dosage" treatments. For example, in junior high schools, risk-prevention programs can often be presented only within an already tightly structured seventh grade health education curriculum. Long-term effects of such limited dosage, understandably, would be problematical.

Training school personnel to adequately implement the program presents a second problem. Many of the prevention projects employed members of research teams to deliver the intervention materials. Realistically, to maintain an in-place program, school personnel must be trained as delivery agents. Unenthusiastic or even resistant school personnel (e.g., as in the case of HIV/AIDS safe-sex messages) may significantly diminish the impact of the intervention, and process data from a number of projects have demonstrated such "teacher effects" (Henderson, McGee & Henderson, 1991; Smith, Flaherty, Webb & Mumford, 1984). Various other facets of the intervention and its evaluation must be overcome if the study is to have any truly significant impact, both initially and in the long run.

Other problems that may be encountered and some possible working approaches can be cited. Among these is sensitivity to the issue of subcultural relevance in the design and implementation of a drug use or HIV/AIDS prevention program. If a prevention intervention is directed toward minority study populations, researchers must be especially sensitive to the ways in which their actions are interpreted. Orlandi (1986) has listed some potential problems which warrant consideration under such circumstances, particularly as related to minority members of a study population. Such problems might include:

- 1) Use of language or symbols not understood in the community.
- 2) Using printed materials too sophisticated for subjects or community members to grasp.
- 3) Using individuals to endorse health promotion campaigns who are not well known in the minority community.
- 4) Using motivational messages not salient to community members.
- 5) Conveying the impression that the health intervention program amounts to a desire to control, stigmatize, or stereotype the minority community.
- 6) Conveying the impression that the health intervention being evaluated in the minority community ultimately is not intended for long term adoption in that community, or that minority community leaders are not intended to participate actively in program design.
- 7) Conveying the impression that the health promotion intervention is a "handout" to be avoided as a matter of pride.
- 8) Failing to convince the minority community that the specific issues addressed in the health promotion intervention are legitimate concerns of a research group who will be tracking individuals and imposing on community organizations to contribute time and resources.
- 9) Failing to convince the minority community that the specific issues addressed in the health promotion intervention are as immediately important as other social problems, (e.g., poverty, or unemployment).

10) Reinforcing the perception of minority community members that they are powerless or helpless when confronting such problems as poverty, crime or drug use, and now HIV/AIDS. Effectively coping with such problems with minority study populations or with any study population is almost entirely dependent on establishing strong relationships with community members and in school-based projects, with the school systems in particular. Sensitivity to such school district or community concerns requires continual feedback from these groups. Thus an ongoing formative evaluation procedure should be instituted (Evans, Raines & Owen, 1989).

Other types of problems must also be addressed. These include problems related to gaining informed consent of students and their parents to participate in the studies and to problems of measuring behaviors that are perceived as sensitive or even taboo. The inclusion of HIV/AIDS-Risk components in prevention projects, even more clearly than other types of prevention projects, adds to the problem of obtaining informed consent. The sample biasing effects of invoking stringent informed consent measures have been reported for both measurement and intervention components in a number of investigations, even those that do not include HIV/AIDS components (Severson & Ary, 1983).

Dealing with such problems almost invariably requires that the intervention program be officially approved as part of the school Health Education curriculum. Such inclusion in the curriculum indicates the approval of the school district's policy-makers at appropriate levels and allows the implementation of measurement and intervention activities within the schools to proceed without additional special informed consent procedures.

Valid and reliable measurement of taboo behaviors such as drug use or at-risk AIDS sexual activities also is an obviously serious problem facing researchers. The fear and possible stigmatization associated with honest self-disclosure makes it extremely difficult to attain valid self-reports of behavior even from adults. The problem may be substantially more complex for investigations involving adolescent populations because such behaviors are subject to even greater social sanctions (Evans, Hansen & Mittelmark, 1977).

To address this problem, various steps might be employed. Rapport must be developed and maintained with intervention program subjects, school personnel, and the representatives of the community organizations whose involvement could reinforce school-based interventions. Representatives of the participating organizations should be invited to serve on advisory committees which assist researchers in developing and maintaining this rapport.

Instruments and intervention materials should be developed that reflect the unique characteristics of the study population. This problem can be addressed by utilizing data from pre-intervention pilot surveys and from focused interviews with individuals in the study population, school staff, and community organization members. In our previous investigations and those of other investigators, such formative evaluation process data have proven to be a valuable component of such programs (Evans, et al, 1989). These data supply background for developing both the measurement instruments and intervention program material.

A special problem emerging in development and evaluation of drug-related and HIV/AIDS prevention research is that a ceiling effect on knowledge may have to be considered. A vast amount of information concerning drug use and HIV/AIDS has been disseminated through multiple sources and appears to have impacted a large segment of the population. The contents of prevention programs and measures to determine information gain must be designed and pre-tested with this problem in mind. For example, in one of our recent studies concerning drug abuse and HIV/AIDS we found, a substantial knowledge base in our respondents. Nevertheless, we also discovered "windows of opportunity" to augment the existing levels of knowledge concerning adolescents. (Reflected in Tables 2 and 3, discussed later in the present paper).

A national survey of high school seniors (completed in December, 1991 with a probability sample of 2100) reflected the opinions of students in 56 high schools in 37 states (National Scholastic Surveys, 1992). As seen in Table 1, this survey found that the risk of HIV/AIDS was extremely salient to most of the students surveyed. For example, 49% believed there should be mandatory AIDS testing for high school students; 52% of students wanted their

classmates with AIDS to be identified; 82% said it was o.k. for teachers to discuss, to an extent, "... AIDS and other sex-related topics in my class . . .," and 78% do not think that discussions of condoms encourage sexual activity. Among students who are sexually active,

Table 1: AIDS Survey with High School Students

<u>Question</u>	<u>Response to Question (%)</u>	
Students believe that there should be mandatory AIDS testing for high school students	49%	
Students believed that classmates with AIDS should be identified	52%	
Students said it was okay for teachers to discuss (to an extent) AIDS and other sex related topics in class	82%	
Students do not believe that discussions of condoms encourage sexual activity	78%	
Among students who are sexually active, this percentage said they use a condom "rarely or never"	20%	
This percentage of students believed that Magic Johnson's disclosure that he is HIV-positive would not cause them to change how often they have sex or how many partners they have	56%	
	<u>% White</u>	<u>% Hispanic</u>
Students said lack of availability of condoms deters them from using them	18%	32%
Costs of condoms would deter them from using them	9%	21%
	<u>% Male</u>	<u>% Female</u>
Respondents who indicated that they carry a condom with them when they go on a date	47%	13%

20% said they use a condom "... rarely or never." 56% of students believed that Magic Johnson's disclosure that he is HIV-positive would not cause them to change how often they have sex or how many partners they have.

With respect to ethnic-racial differences, also displayed in Table 1, 32% of Hispanic respondents, compared to 18% of Whites, said that lack of availability of condoms deters them; and 21% of Hispanics said the cost of condoms would deter them from using them, compared to 9% of Whites. Gender differences were reported in various behaviors. For example, of the 29% of the respondents who indicated that they carry a condom with them when they go on a date, 47% are male and 13% female.

Between 1990-1992, the study mentioned earlier, we conducted AIDS attitude and knowledge survey in high schools within Northeast Houston-Harris County, the target area for a prevention investigation we are planning, to determine the need and receptivity for such a prevention intervention. The survey involved 576 high school students (54% male, 46% female; 90.1% African-American, 6% Hispanic, and 2.9% non-minority) contained items measuring knowledge of HIV transmission, knowledge of information that is more indirectly related to the spread of AIDS such as general disease consequences of injected drug use, transmission of sexually transmitted diseases (STDs) other than AIDS, and the prevention of unwanted pregnancy. Also included were items measuring the students' receptivity to learning more about these issues. Table 2 shows the percentage of correct responses to selected items that reflect knowledge of the primary modes of HIV transmission. Note that knowledge of the most highly publicized modes of HIV transmission, use of IV drugs and failure to use a condom during sexual intercourse, is very high. However, the fact that AIDS may be contracted through oral sex is not as well known. Furthermore, there appear to be misconceptions among a significant number of the students that sex is necessarily safer with individuals one "knows," and that the danger is decreased if petroleum-based lubricants such as baby oil or petroleum jelly are used with condoms. Note that the most substantial variation across ethnic groups is in knowledge of oral sex as a possible mode of HIV transmission, with non-minorities responding correctly the most frequently, and Hispanics responding correctly the least. Knowledge of the danger of having sex without a condom, and in having sex with people one knows show a lesser degree of variation, with African-Americans responding

correctly the most frequently in each case. Our analyses indicated that there is no substantial variation across gender with respect to knowledge.

Table 2. Knowledge of AIDS Transmission

<u>% Correct</u>	<u>African American</u>	<u>Hispanic</u>	<u>Non-Minority</u>	<u>All</u>
Using injected drugs as related to AIDS	97.5	97.0	87.5	96.5
Having sex without condoms	94.2	97.1	86.7	92.9
Oral sex	61.2	47.1	87.5	60.2
Less danger in having sex with people you know	70.2	61.8	62.5	68.9
Less danger when using baby oil/petroleum jelly w/condom (a generally-held misconception)	58.2	47.1	56.3	55.9

*NOTE: No gender differences existed with respect to knowledge.
n = 576 high school students*

Table 3. Receptivity to AIDS and Substance Information

<u>% Interested in more knowledge</u>	<u>Male</u>	<u>Female</u>	<u>All</u>
Prevention of AIDS/STDs	82.5	92.0	86.3
Handling offers of alcohol	52.3	54.8	52.8
Handling offers to use drugs	58.9	69.0	61.8
How to get help with alcohol problems	55.6	61.3	57.3
How to get help with drug problems	61.8	65.1	62.5
Handling pressures to have sex	47.2	76.3	59.9

NOTE: No ethnic differences existed with respect to receptivity.

Receptivity to information regarding substance abuse as related to increasing the possibility of at-risk HIV sexual encounters is shown in Table 3. Overall, it appears that interest in

obtaining more knowledge concerning substance abuse and AIDS-related topics is strong, with a generally greater degree of interest on the part of female students reflected in all items.

These survey results which suggest a high degree of receptiveness to an AIDS prevention program, suggest that the young person may already be quite worried concerning the contraction of AIDS. To investigate this possibility, Cochran and Paplau (1991) surveyed a sample of 188 young, sexually-active heterosexuals. For both male and female respondents, higher levels of worry were a significant predictor of risk reduction implementation. For women only, more extensive histories of sexual behavior significantly predicted levels of worry. In the men only, perceptions of personal vulnerability and homophobia contributed significantly to precipitating high levels of worry. This certainly suggests how important it is to consider gender differences prevention programs. Yet, in spite of such levels of worry about contracting AIDS, in another study of young persons (Cochran, Keidan, & Kalechstein, 1990) 44% of sexually experienced participants reported that they had not changed their behavior in any way to reduce their risk of acquiring an HIV infection.

In summary, interest in obtaining more knowledge concerning AIDS and substance use information appears to exist at a high level, with females being more receptive than males to such information. While level of AIDS knowledge appears, over all, to be quite high, there do seem to be deficits in less publicized aspects of HIV transmission, with some variation across ethnic groups. Also not clearly evident is the respondents' knowledge of the relationship between drug use and engaging in at-risk sexual behaviors. Worry about contracting AIDS may or may not necessarily lead to adhering to safe-sexual practices.

Aside from coping with the various constraints on such research programs, "low dosage" programs, as suggested earlier, are unlikely to have any truly long term effects. If school systems serve as the site of program delivery, continued presentation of prevention messages must be continued from middle school through high school. If formal health courses are not scheduled, such prevention messages should be incorporated in physical education courses, science courses, social science courses, student newspapers, posters and so on. Periodically

the originally delivered message must be reinforced and as the students move from middle school to high school, age appropriate variations in the prevention messages must be introduced. Parent-teacher organizations should be encouraged to schedule programs which feature prevention messages. From time to time at all grade levels, student assemblies should be scheduled by the principals to further reinforce these prevention messages.

On the more positive side, there has now been an increasing receptivity to realistic AIDS prevention programs in schools. Shifts in policy are increasingly apparent throughout the United States. If the focus of these programs, particularly in AIDS prevention, is on abstinence, with other "safe sex" recommendations presented within this context, greater receptivity to prevention programs may occur among recalcitrant school and community leaders. In our ongoing research programs, we are, in fact implementing such procedures.

As prevention research interventions become truly "high dosage" and produce significant long-term outcomes, real progress in prevention of substance abuse and HIV/AIDS will occur.

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